

## **Remarks**

### **1. Summary of the Office Action**

In the Final Office Action mailed September 30, 2010, the Examiner rejected claims 9-10, 21, and 23 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Pub. No. 2004/0203820 (Billhartz) in view of United States Patent No. 7,254,141 (Desai) and United States Patent No. 6,754,189 (Cloutier), rejected claims 11 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Billhartz, Desai, and Cloutier and further in view of United States Patent No. 2003/0058871 (Sastry), and rejected claims 17-18 and 22 under 35 U.S.C. § 103(a) as being unpatentable over Billhartz, Desai, and Cloutier and further in view of United States Patent Application No. 2008/0056226 (Zhao).

### **2. Summary of the Amendments to the Claims**

By this response, Applicants have amended independent claim 9 and dependent claims 10, 11, 17, and 18.

### **3. Request for Continued Examination**

Applicants submit, accompanying the enclosed amendments and remarks, a request for continued examination (RCE) and the required fee. In light of this, Applicants respectfully request that the finality of the Examiner's rejections set forth in the September 30, 2010 Final Office Action be withdrawn, and that the Examiner consider the attached amendments to the claims and remarks on their merits.

### **4. Interview Summary**

Applicants thank the Examiner for conducting the interview on October 26, 2010. No demonstrations were conducted. Prior to the interview, Applicants provided the Examiner a draft amendment to claim 9 as embodied in the draft amendment to claim 9 above. Participating in the

interview was Applicant's representative Daniel R. Bestor, and Examiner Jutai Kao. During the Interview, Applicants explained how amended claim 9 distinguished over the cited references of record. Specifically, Applicants noted that the references of record failed to disclose or teach "the first wireless station determining that the establishment of the new data link should be delayed for a first period of time." The Examiner agreed that the proposed amendments distinguished over the Cloutier reference, and indicated that a new search would be conducted. No agreement regarding allowability was reached.

**4. The Examiner did not establish a *prima facie* case of obviousness of claims 9-10, 21, and 23 in view of the cited Billhartz, Desai, and Cloutier references.**

As set forth above, in the Final Office Action mailed on September 30, 2010 the Examiner rejected claims 9-10, 21, and 23 under 35 U.S.C. § 103(a). Applicants respectfully submit that the Examiner can not establish a *prima facie* case of obviousness of the pending amended independent claim 9 for at least the reasons that the cited references of record fail to disclose or teach "responsive to the free channel capacity determination, the first wireless station determining that the establishment of the new data link should be delayed for a first period of time," and furthermore, that one of ordinary skill would not have modified the Billhartz reference in the manner asserted by the Examiner in view of the teachings of the secondary references.

As recognized by the Examiner on pages 2-3 of the Office Action, the references of record fail to teach "responsive to the free channel capacity determination, the first wireless station determining that the establishment of the new data link should be delayed for a first period of time." Rather, at best, the Cloutier reference teaches that a client mobile station user may transmit a new data request to a base station and that the base station, after receiving the new data request, may then "determine the resources necessary to accommodate the needs of the user." If the base station determines that insufficient resources are available, the base station rejects the new

connection and the user must try again later. Importantly, in Cloutier, it is not the data link initiating device that is determining that “the free channel capacity at the first priority level is less than the requested first channel capacity” and, as a result, “determining that the establishment of the new data link should be delayed for a first period of time.” Rather, it is some other device (the base station in Cloutier) on the other side of the transmission medium that is deciding whether to create the new link or not, and whether to delay the link or not.

Accordingly, for at least the reason that the cited references of record, alone or in combination, fail to teach each and every element of the independent claim 9, Applicants respectfully request that the Examiner’s rejections be withdrawn, and all claims placed in condition for allowance.

Additionally, Applicants respectfully submit that one of ordinary skill would not have modified Billhartz in view of the Desai and Cloutier references. The Examiner has essentially combined three entirely disparate network technologies (ad-hoc wireless networks in Billhartz, optical-switching in Desai, and infrastructure cellular networks in Cloutier) without setting forth logical reasoning with rational underpinnings as to how, or why, one of ordinary skill in the art would make the proposed modifications to the ad-hoc structure in the primary Billhartz reference in view of the optical-switching structure in Desai and the infrastructure cellular network structure in Cloutier.

Applicants note that the Examiner stated, on page 2 of the Office Action, that “The mobile stations communication with one another [in Billhartz] act as a set of distributed switches (see paragraphs [0054] – [0058]. Therefore, it is reasonable to look to Desai’s switch to consider channel capacities allocated to traffic of lower service class as available capacities in order to allow traffic of higher service class to be transmitted first.” Applicants, however, respectfully

disagree that Billhartz in general, and paragraphs [0054]-[0058] in particular, support the Examiner's assertion, and furthermore, respectfully submit that the Examiner's unsupported assertion that the mobile stations of Billhartz act as distributed switches does not amount to the logical reasoning with rational underpinnings required by *KSR* and M.P.E.P. §§ 2142 and 2143.

First, and in specific regard to the Examiner's assertion, paragraphs [0054]-[0058] of Billhartz do not make any comparison of the disclosed ad-hoc wireless networks to wired-line or optical switches. In fact, the only time the word "switch" is ever used in Billhartz is in regard to a wireless device in the ad-hoc wireless network switching wireless frequencies to check wireless communications medium bandwidth availability on a separate wireless frequency channel.

Second, Applicants respectfully submit that the optical switch disclosure of Desai would not have logically or reasonably motivated one of ordinary skill to modify the Billhartz reference in the manner asserted by the Examiner. The Desai reference is directed to an intermediate optical switch (e.g., as shown in Fig. 2 of Desai, a device with a plurality of ingress ports  $i_1-i_n$  and a plurality of egress ports  $e_1-e_n$ , and an intervening switch fabric that intelligently routes data appearing at one or more particular ingress ports to proper corresponding one or more egress ports) that "receives [a] set-up message" initially created at an external terminal device 10 and having a destination of another external terminal device 12, and "determines whether the available priority bandwidth of the requested priority exceeds the requested bandwidth." In other words, the switch determines whether there is sufficient remaining bandwidth across its switch fabric to support a new data connection at a requested QoS.

In contrast, Billhartz is directed to an ad-hoc wireless network of wireless communication devices. The transmission of data across an open wireless medium from one source device to one destination device is substantially different than a hard-wired or optical switch that has entire

control and knowledge of the capacities and current throughput of the optical switch fabric. Furthermore, the wireless communication devices of Billhartz do not act as an intermediary switch device that routes communications from one or more of a plurality of ingress ports to one or more of a plurality of egress ports dependent upon an availability of internal bandwidth in a switch fabric of the wireless communications device. Rather, the wireless communication devices of Billhartz are more akin to the Terminals 10, 12 in Desai, not any one of the “Switches A-D” in Figure 1 of Desai. (See, for example, Desai’s definition of a switch in column 1, lines 19-33). Desai fails to teach any application of its disclosed methods to the terminals 10, 12, or more generally to wireless networking devices or mediums.

As just one specific example, Desai teaches in column 4, lines 38-44, and lines 57-64 that each disclosed optical switch “includes a listing of actual connections, including priority and bandwidth, and provisional connections, including priority and bandwidth...[and] maintains the total available bandwidth, available priority bandwidth for each priority and actual priority bandwidth for each priority as connections are adjusted.” In other words, the switches of Desai have total control and insight into the state of the transmission medium between the ingress ports and the egress ports. In contrast, paragraph [0057] of Billhartz, cited and relied upon by the Examiner in the last Office Action, states that a wireless mobile device 4, in order to determine bandwidth availability, must not only consider its own available bandwidth, but due to the unique characteristics of the wireless medium in Billhartz, must also consider bandwidth being used by others within wireless communication range of the device 4. For example, Billhartz states that in addition, “node 4 must [also] check to see if any other nodes in range (here nodes 1, 3, and 5) have already made prohibitive commitments. So node 4 broadcasts a CHECK message and any nodes within range that have committed bandwidth will send a CHECK REPLY back indicating such.

Node 4 makes sure that it has heard a CHECK REPLY from all nodes that it has heard from lately.” There is no teaching or suggestion in Desai regarding wireless transmission mediums. The Examiner has not yet set forth how, and why, the above-described disparate methods and disparate operating environments of Billhartz and Desai could be combined in a logical and reasonable way, without defeating the purpose and advantages of the individual disclosed methods.

For at least the foregoing reasons, Applicants respectfully submit that the Examiner’s rejection does not meet the requirements of M.P.E.P. §§ 2142 and 2143.

Third, Applicants respectfully submit that the infrastructure cellular network of Cloutier would not have logically or reasonably motivated one of ordinary skill to modify the Billhartz and Desai references in the manner asserted by the Examiner. The Cloutier reference is directed to a base station in an infrastructure cellular network that, after receiving a new data request from a client mobile station user, “determine[s] the resources necessary to accommodate the needs of the user.” If the base station determines that insufficient resources are available, the base station rejects the new connection and the user must try again later. In Cloutier, it is not the data link initiating device that is determining that “the free channel capacity at the first priority level is less than the requested first channel capacity” and, as a result, “determining that the establishment of the new data link should be delayed for a first period of time.” Rather, it is some other device (the base station in Cloutier) on the other side of the transmission medium that is deciding whether to create the new link or not, and whether to delay the link or not. The Examiner has thus far not set forth a reasonable or logical argument regarding how, or why such receiving base-station functionality could be integrated into a source requesting ad-hoc mobile device of Billhartz.

Applicants respectfully submit that the Examiner's purported motivation to combine (ignoring the lack of an explanation of how Cloutier such a combination would be achieved), set forth on page 8, lines 6-12, sets forth Cloutier's concerns with having too many client stations overloading the infrastructure base transceiver station (BTS) in the cellular network. It is unclear, and the Examiner does not address, how this applies to source/originating mobile stations in an ad-hoc network, or to switches in an optically switched network.

For at least these reasons also, Applicants respectfully submit that the Examiner's rejection does not meet the requirements of M.P.E.P. §§ 2142 and 2143.

For all the foregoing reasons, Applicants respectfully submit that the Examiner can not establish a *prima facie* case of obviousness of independent claim 9. For at least the reason that dependent claims 10, 21, and 23 inherit all of the limitations of independent claim 9, Applicants submit that these claims are also now in condition for allowance.

**5. Dependent claims 11 and 19 do not reasonably or logically flow from the teachings of the cited Billhartz, Desai, Cloutier, and Sastry references**

As set forth above, in the last Final Office Action the Examiner rejected claims 11 and 19 under 35 U.S.C. § 103(a) in view of the cited Billhartz, Cloutier, and Sastry references.

Applicants respectfully submit that claims 11 and 19 inherit all of the limitations of independent claim 9, now believed in condition for allowance. For at least the reason that the Sastry reference does not compensate for the failed disclosure and/or teaching of the Billhartz, Desai, and Cloutier references, Applicants respectfully submit that claims 11 and 19 are now also in condition for allowance.

**6. Claims 17-18 and 22 do not reasonably or logically flow from the teachings of the cited Billhartz, Desai, Cloutier, and Zhao references**

As set forth above, in the Final Office Action the Examiner rejected claims 17-18 and 22 under 35 U.S.C. § 103(a) in view of the cited Billhartz, Desai, Cloutier, and Zhao references. Applicants respectfully submit that claims 17-18 and 22 inherit all of the limitations of independent claim 9, now believed in condition for allowance. For at least the reason that the Zhao reference does not compensate for the failed disclosure and/or teaching of Billhartz, Desai, and Cloutier, Applicants respectfully submit that claims 17-18 and 22 are now also in condition for allowance.

#### 7. Conclusion

Applicants submit that all pending claims are in condition for allowance and respectfully requests favorable reconsideration and allowance of all of the pending claims. Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-2125.

Respectfully submitted,

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